

22/593

ABSTRACT OF THE DISCLOSURE

In a preferred embodiment of the invention, a transport module suitable for 300 mm wafers has a cushioning system that attaches to the interior of an enclosure door. The system comprises a pair of upright parallel cushions, each comprising an elongate base portion with a plurality of integral fingers extending at an acute angle from the base members. Each sequential finger of each cushion engaging every other wafer. Each finger having an arm portion and a wafer engaging portion. The wafer engaging portion comprising a curved convex surface to provide minimal vertical line contact with the circumferential outer surface of the wafer without providing axial constraintment of the wafer. The base portions are attached to the inside facing door panels by a plurality of attachment portions each comprising a split shank portion that extends through the aperture and a plurality of flange portions on the ends of the split shank portions for securing the base portions to the inside panel. An O-ring may be positioned on the shank portion for sealing the connection. Additional extension members may extend intermediate the arm portions to provide a contact point laterally displaced from the base member such that when the wafer engagement portions are loaded by engagement with the wafers, the connection of the attachment portion to the interior door panel operates as a fulcrum to precisely control the positioning, holding force, and deflection of the fingers.